

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A method of producing a tire cord comprising a twisted cord and an adhesive layer for rubber coated on the surface of the twisted cord, ~~which comprises a step of comprising:~~

coating the twisted cord by spraying an adhesive material; and
uniformizing the coating of the adhesive material on the twisted cord through an interlacer or a blow nozzle after the spraying.

2. (canceled)

3. (previously presented): A method of producing a tire cord according to claim 1, wherein a predetermined amount of the adhesive material is fed by a pump in the spraying.

4. (currently amended): A method of producing a tire cord according to claim 1, wherein the adhesive material has a viscosity of 50 to 3000 mPa*s.

5. (currently amended): A method of producing a tire cord according to claim 1, wherein the adhesive material is an adhesive composition ~~containing~~ comprising (A) a conjugated diene polymer having a weight average molecular weight of 500-100,000 and (B) a basic compound having an electron pair donor property.

6. (currently amended): A method of producing a tire cord according to claim 5, wherein the adhesive composition ~~contains~~comprises the basic compound having the electron pair donor property (B) in an amount of 0.2-50 parts by mass based on 100 parts by mass of the conjugated diene polymer (A).

7. (previously presented) A method of producing a tire cord according to claim 5, wherein a reaction heat curve of a mixture consisting of 100 parts by mass of an adhesive composition and 3 parts by mass of sulfur such as cyclic sulfur (S) (measured by a differential scanning calorimeter at a temperature rising rate of 5°C/min) indicates a reaction heat peak accompanied with the vulcanization reaction at a temperature zone of not higher than 190°C, which is not observed in a reaction heat curve of a mixture consisting of 100 parts by mass of the above conjugated diene polymer (A) and 3 parts by mass of sulfur.

8. (currently amended): A method of producing a tire cord according to claim 1, ~~wherein in a composite formed~~further comprising forming a composite by adhering such an adhesive layer for rubber with ~~the a rubber mixture containing~~comprising sulfur, ~~when wherein if~~ a count quantity of sulfur atoms in a section perpendicular to the adhered face through a fluorescent X-ray is measured by an X-ray analysis through an electron microscope, ~~the a~~ sulfur count quantity in the adhesive layer for rubber becomes larger than an average distribution of the sulfur count quantity in the adhered rubber.

9. (currently amended): A method of producing a tire cord according to claim 5, wherein the adhesive composition further ~~contains~~comprises (C) a compound having three or more functional groups capable of crosslinking through an ultraviolet ray or radiation irradiation in one molecule and/or (D) a compound ~~having~~comprising one or two functional groups capable of conducting radical polymerization through an ultraviolet ray or radiation irradiation.

10. (currently amended): A method of producing a tire cord according to claim 5, wherein a terminal group of the conjugated diene polymer (A) ~~is~~comprises a vinyl group, acryloyl group, methacryloyl group, acryloyloxy group, methacryloyloxy group or allyl group.

11. (currently amended): A method of producing a tire cord according to claim 5, wherein a terminal group of the conjugated diene polymer (A) ~~is~~comprises an acryloyloxy group or methacryloyloxy group.

12. (currently amended): A method of producing a tire cord according to claim 5, wherein the basic compound having an electron pair donor property (B) ~~is~~comprises a nitrogen-containing compound having unpaired electrons or a compound produced by thermally decomposing the compound having a structure of unpaired electron.

13. (currently amended): A method of producing a tire cord according to claim 12, wherein the nitrogen-containing compound having unpaired electrons ~~is~~comprises an amine compound or a polymerizable monomer containing an aliphatic amine residue or a heterocyclic amine residue and having carbon-carbon double bond.

14. (currently amended): A method of producing a tire cord according to claim 13, wherein the amine compound ~~is~~comprises an aliphatic amine, an aromatic amine, an aldehyde amine, a guanidine, a thiourea or a heterocyclic amine.

15. (currently amended): A method of producing a tire cord according to claim 14, wherein the aliphatic amine ~~is~~comprises dibutylamine, ethylene diamine or polyethylene polyamine, and the aromatic amine ~~is~~comprises aniline, m-phenylene diamine or 2,4-toluylene diamine, and the aldehyde amine ~~is~~comprises n-butylaldehyde aniline, and the guanidine ~~is~~comprises diphenyl guanidine or diorthotolyl guanidine, and the thiourea ~~is~~comprises thiocarbanilide, diethyl thiourea or tetramethyl thiourea, and the heterocyclic amine ~~is~~comprises pyridine or 2-methyl imidazole.

16. (currently amended): A method of producing a tire cord according to claim 13, wherein the polymerizable monomer ~~is~~comprises at least one compound selected from the group consisting of 2-vinylpyridine, 4-vinylpyridine, m-(N,N-dimethylamino) styrene, p-(N,N-dimethylamino) styrene, acrylamide, methacrylamide, N-methyl acrylamide, N-isopropyl acrylamide, N-n-butyl acrylamide, N-n-octyl acrylamide, N,N-dimethyl acrylamide, 1-vinyl imidazole, allylamine, 2,5-distyryl pyridine, 2-dimethylaminoethyl methacrylate, N-vinyl-2-pyrididone, 2-vinyl-2H-indazole, 4-diisopropylamino-1-butene, trans-2-butene-1,4-diamine, 2-vinyl-4,6-diamino-1,3,5-triazine, 4-methyl-5-vinyl thiazole, N-vinylformamide, N,N-dimethylaminoethyl acrylate, N,N-dimethylaminopropyl acrylamide, acryloyl morpholine and N,N-diethyl acrylamide.

17. (previously presented): A method of producing a tire cord according to claim 12, wherein the compound having a structure of unpaired electrons is thermally decomposed to form a compound as a vulcanization accelerator.

18. (currently amended): A method of producing a tire cord according to claim 12, wherein the compound produced by thermal decomposition of the compound having a structure of unpaired electrons is comprises tetramethylthiuram disulfide.

19. (previously presented): A method of producing a tire cord according to claim 9, wherein the compound (C) is included in an amount of 30-80 parts by mass based on 100 parts by mass of the conjugated diene polymer (A).

20. (currently amended): A method of producing a tire cord according to claim 9, wherein the compound (C) is comprises a novolac type phenolic resin modified with acryloyl group and/or methacryloyl group.

21. (currently amended): A method of producing a tire cord according to claim 5, wherein the adhesive composition further ~~contains~~ comprises at least one additive selected from the group consisting of an epoxy compound, an inorganic filler and a high molecular weight filler.

22. (currently amended): A method of producing a tire cord according to claim 1, wherein the adhesive material ~~is-comprises an~~ ultraviolet ray or radiation curable adhesive composition comprising (A) a conjugated diene polymer having a weight average molecular weight of 500-100,000, (E) a compound ~~having-comprising~~ three or more of acryloyloxy group, methacryloyl group or functional group represented by the following formula (I):



(wherein R¹ is an alkylene group having a carbon number of 2-5, and R² is a hydrogen atom or an alkyl group having a carbon number of 1-3, and m is an integer of 0-5) in one molecule, and (F) a compound ~~having-comprising one~~ or two acryloyloxy groups or methacryloyloxy groups.

23. (currently amended): A method of producing a tire cord according to claim 22, wherein a terminal group of the conjugated diene polymer (A) ~~is-comprises a~~ vinyl group, acryloyl group, methacryloyl group, acryloyloxy group, methacryloyloxy group or allyl group.

24. (currently amended): A method of producing a tire cord according to claim 22, wherein a terminal group of the conjugated diene polymer (A) ~~is-comprises an~~ acryloyloxy group or methacryloyloxy group.

25. (previously presented): A method of producing a tire cord according to claim 22, wherein 30-80 parts by mass of the compound (E) and 3-60 parts by mass of the compound (F) are included based on 100 parts by mass of the conjugated diene polymer (A).

26. (currently amended): A method of producing a tire cord according to claim 22, wherein the ultraviolet ray or radiation curable adhesive composition further ~~contains~~ comprises at least one additive selected from the group consisting of an epoxy compound, an inorganic filler, a high molecular weight filler and a basic compound.